

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A hand-held electronic device comprising:
 - a memory configured to store a plurality of applications, wherein each application is associated with a set of functions;
 - a processor configured to process a selected one of the plurality of applications;
 - a first input assembly having a plurality of input elements on a first surface configured to receive input from a human user through manipulation of the plurality of input elements, wherein at least one of the input elements on the first surface is configured to selectively map to one or more input functions of the set of functions associated with the selected one of the plurality of applications;[[and]]
 - a second input assembly having one or more input elements on a second surface configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements on the second surface is further configured to be selectively mapped to one or more input functions of the set of functions corresponding to the selected one of the plurality of applications, further wherein the plurality of input elements on the first surface and the one or more input elements on the second surface are arranged so as to substantially optimize a biomechanical effect of the human user's hand; and

wherein at least one of the input elements of the second input assembly is a sensor pad configured to selectively represent a plurality of delineated active areas, wherein manipulation of a delineated active area causes the input function of one or more input elements of the first input assembly to change.

2. (Cancelled).

3. (Cancelled).

4. (Previously Presented) The hand-held electronic device of claim 3, further comprising a shape changing media configured relative to the sensor pad so as to permit the human user to tactilely discriminate between the plurality of delineated active areas.

5. (Previously Presented) The hand-held electronic device of claim 1, wherein the processor receives signals generated by the input elements of first or second input assemblies when manipulated by the human user.

6. (Previously Presented) The hand-held electronic device of claim 1 further comprising an input controller, wherein the input controller receives signals generated by the input elements of first or second input assemblies when manipulated by the human user and converts the signals into a form suitable to be interpreted by the processor.

7. (Previously Presented) The hand-held electronic device of claim 1, wherein at least one of the input elements of the second input assembly is a rotary sensor.

8. (Previously Presented) The hand-held electronic device of claim 1, wherein at least one of the input elements of second input assembly is a D-pad.

9. (Previously Presented) The hand-held electronic device of claim 1, further comprising at least one palpable detent, wherein the detent is associated with at least one of the input elements of the first or second input assemblies so as to provide tactile feedback to the human user when the human user manipulates the input element associated with the palpable detent.

10 (Previously Presented) The hand-held electronic device of claim 1 further comprising one or more vibratory or force producing units, at least one of the vibratory or force producing units configured to provide tactile feedback upon the human user's manipulation of at least one of the input elements of the first or second input assemblies.

11 (Previously Presented) The hand-held electronic device of claim 10, wherein at least one of the vibratory units provide tactile feedback in response to events occurring in the selected ~~a software~~ application running on the processor.

12 (Previously Presented) A hand-held electronic device comprising:

a memory configured to store a plurality of applications, wherein each application is associated with a set of functions;

a processor configured to process a selected one of the plurality of applications, wherein the set of functions associated with the selected application includes a plurality of text symbol functions and a plurality of shifting functions;

a first surface having a plurality of input elements configured to receive input from a human user through manipulation of the plurality of input elements, wherein at least one of the input elements of the first surface is further configured to selectively map to more than one text symbol function; and

a second surface having one or more input elements, wherein at least one of the input elements of the second surface having one or more selectable active areas configured to be manipulated by one or more of the human user's fingers, each selectable active area configured to selectively map to a different shifting function, wherein manipulation of one of the selectable active area causes the text symbol function of the one or more input elements of the first surface to change, further wherein the plurality of input elements of the first surface and the one or more input elements of the second surface are arranged so as to substantially optimize a biomechanical effect of the human user's hand.

13. (Previously Presented) The hand-held electronic device of claim 12 further comprising a controller, wherein the controller receives signals generated by the human user's manipulation of the input elements of the first surface or active areas.

14. (Previously Presented) The hand-held electronic device of claim 13 further comprising a dome cap positioned above at least one input element of the first surface or the second surface and capable of providing tactile feedback to the human user when the input element associated with the dome cap is manipulated.

15. (Previously Presented) The hand-held electronic device of claim 13 further comprising one or more vibratory units capable of providing tactile feedback.

16. (Previously Presented) The hand-held electronic device of claim 13 further comprising one or more force producing units capable of providing tactile feedback.

17. (Previously Presented) A method for configuring a human interface and input system for use with a hand-held electronic device configured to run a plurality of applications, each application associated with a set of functions, the method comprising:
disposing on a first surface a first input assembly having a plurality of input elements configured to receive input from a human user through manipulation of the plurality of input elements, wherein at least one of the input elements of the first input assembly is further configured to map to more than one input function associated with a selected one of the plurality of applications;

disposing on a second surface a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly is further configured to selectively map to one or more input functions associated with the selected application; and

arranging the plurality of input elements of the first input assembly and the one or more input elements of the second input assembly to substantially optimize a biomechanical effect of the human user's hand.

18 (Previously Presented) The method of claim 17 further comprising: physically or electronically labeling at least one input element of the first input assembly or the second input assembly so as to visually indicate an input function that can be selectively accessed by actuating the input element.

19 (Previously Presented) The method of claim 17 further comprising connecting a controller to the input elements of the first input assembly or the second input assembly, wherein the controller is configured to receive signals generated by a manipulation of one or more of the input elements of first input assembly or the second input assembly.

20 (Previously Presented) The method of claim 19, wherein at least one input element of second input assembly having a plurality of active areas configurable by the controller to form a plurality of delineated active areas.

21 (Previously Presented) The method of claim 20 further comprising positioning a shape changing media relative to the one input element of second input assembly having a plurality of active areas so as to permit the human user to tactilely discriminate between the plurality of delineated active areas.

22 (Cancelled)

23 (Previously Presented) The method of claim 17 further comprising positioning a palpable detent with at least one input element of the first input assembly or the second input assembly so as to provide tactile feedback when manipulated by the human user.

24 (Previously Presented) A method for inputting data on a hand-held electronic device having a first surface with a plurality of input elements configured to receive input from a human user through manipulation of the plurality of input elements, wherein at least one of the input elements is further configured to map to a plurality of symbols in a data input mode, wherein each of the plurality of symbols is associated with a unique index position identifier, and a second surface having one or more selection elements configured to be manipulated by one or more of the human user's fingers, wherein each selection element corresponds to one of the unique index position identifiers, further wherein the plurality of input elements and the one or more selection elements are arranged to substantially optimize a biomechanical effect of the human user's hand, the method comprising:

executing a selected application from a plurality of applications, wherein the selected application is associated with a set of functions

determining the index position identifier of a desired symbol to be inputted based on the functions associated with the selected application;

pressing the selection element corresponding to the index position identifier of the desired symbol with any digit or object held in the human user's hand; and

pressing the input element configured to map to the desired symbol with any digit or object held in the human user's hand. (page 14, lines 2-27).

25 (Previously Presented) The method of claim 24, wherein each input element is physically or electronically labeled indicating each symbol that is mapped to the input element and a positional order in which each symbol can be selectively accessed by actuating the input element.

26 (Previously Presented) The method of claim 24, wherein determining the index position identifier of the desired character to be inputted comprises:

locating the input element configured to map to the desired symbol; and

counting from left to right the number of symbols preceding the desired symbol labeled on the located input element, wherein the index position identifier of the desired symbol is the number of symbols preceding the desired symbol plus one.

27. (Previously Presented) The method of claim 24, wherein at least one of the input elements or selection elements is further configured to map to a plurality of modes corresponding to the selected application executing on the hand-held electronic device, at least one of the modes is the data input mode, the method further comprising enabling the data input mode.

28. (Previously Presented) A method for a human user to input data on a hand-held electronic device using an interface and input system comprising a plurality of input elements in a thumb-manipulated assembly to substantially optimize a biomechanical effect of the human user's thumb and fingers, wherein at least one input element is mapped to more than one text function, and one or more selection elements in a finger-manipulated input assembly, wherein each selection element is mapped to a unique shift position, the method comprising:

executing a selected text application from a plurality of applications, wherein the selected application is associated with a set of functions

pressing a desired selection element of the finger-manipulated input assembly with a human finger to select a desired shift position the selected text application; and

pressing a desired input element of the thumb-manipulated input assembly with a human thumb to input a desired text character.

29 (Previously Presented) A hand-held electronic device comprising:

a memory configured to store a plurality of applications, wherein each application is associated with a set of functions;

a processor configured to process a selected one of the plurality of applications;

a first input assembly disposed on a first surface of the electronic device, wherein the first input assembly comprises a plurality of input elements configured to be actuated by a human user's hand, wherein at least one of the input elements of the first input assembly is configured to map to one or more input functions of the set of functions associated with the selected one of the plurality of applications; and

a second input assembly disposed on a so as to substantially optimize a biomechanical effect of the human user's hand, wherein the second input assembly comprises one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly is a selectively configurable sensing surface so as to provide a plurality of delineated active areas, further wherein one or more of the delineated active areas is mapped to one or more functions associated with the selected application, further wherein the memory is further configured to store for each application a mapping of the selectively configurable sensing surface to the plurality of delineated active areas.

30 (Previously Presented) The hand-held electronic device of claim 1, wherein the selected one of the plurality of applications is a text application; and the one or more input elements on the second surface of the second input assembly comprises one or more selection elements, wherein manipulations of the one or more selection elements causes the input elements on the first surface of the first input assembly to be selectively mapped from one text function to another text function.

31 (Previously Presented) The hand-held electronic device of claim 1, wherein the selected one of the plurality of application is a game application, and at least one of the plurality of input elements of the first input assembly and at least one of the input elements of the second input assembly are each configured to selectively map to one or more game functions.

32 (Previously Presented) The hand-held electronic device of claim 29, further comprising: an input controller, wherein the input controller receives a plurality of signals generated by the input elements of the first input assembly and the second input assembly when manipulated by the human user, and converts the plurality of signals into a form suitable to be interpreted by the processor.

33. (Previously Presented) The hand-held electronic device of claim 32, wherein at least one input element of the first input assembly or the second input assembly is configured to map to one or more input functions associated with the selected application that control a cursor on a screen.

34 (Previously Presented) The hand-held electronic device of claim 32, wherein the selected one of the plurality of applications is a game application.

35 (Previously Presented) The hand-held electronic device of claim 34, wherein at least one input element of the first input assembly or the second input assembly is configured to map to one or more input functions associated with the game application that control a game character on a screen.

36 (Previously Presented) The hand-held electronic device of claim 34, wherein the input controller is further configured to interpret a movement of the human user's finger sliding across two or more delineated active areas as a change in the mapped function of the two or more delineated active areas, wherein the mapped function is at least one of a speed control, a size control, a weapon fire control, and a position control. (page 16, lines 4-30).

37 (Previously Presented) The hand-held electronic device of claim 34, wherein the input controller is further configured to interpret a pressure applied by the human user's finger on a selected one of the delineated active areas as a change in the mapped function of the selected delineated active area, wherein the mapped function is at least one of a speed control, a size control, a weapon fire, and position control. (page 16, lines 4-30).

38. (Previously Presented) The hand-held electronic device of claim 34, wherein at least one of the functions mapped to the input element of the first input assembly is a game function that is substantially optimized for actuation by the human user's thumb.

39. (Previously Presented) The hand-held electronic device of claim 38, wherein the game function that is substantially optimized for actuation by the human user's thumbs comprises a directional control.

40. (Previously Presented) The hand-held electronic device of claim 34, wherein at least one of the functions mapped to the delineated active areas is a game function that is substantially optimized for actuation by one or more of the human user's fingers.

41. (Previously Presented) The hand-held electronic device of claim 40, wherein the game function that is substantially optimized for actuation by one or more of the human user's fingers comprises a weapon fire control.

42. (Previously Presented) The hand-held electronic device of claim 40, wherein the game function that is substantially optimized for actuation by one or more of the human user's fingers comprises a game character jump control.

43. (Previously Presented) A method for configuring a human interface and input system for use with a hand-held electronic device configured to run a plurality of applications, each application associated with a set of functions, the method comprising:

disposing on a first surface a first input assembly having a plurality of input elements configured to receive input from a human user's hand through manipulation of the plurality of input elements, wherein at least one of the input elements of the first input assembly

is further configured to map to more than one input function associated with a selected one of the plurality of applications;

disposing on a second surface a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly is further configured to selectively map to one or more input functions associated with the selected application; and

mapping the set of functions of the selected application to the one or more input elements of the first input assembly and the second input assembly to substantially optimize a biomechanical effect of the human user's hand.

44 (Previously Presented) The method of claim 43, wherein the selected application is at least one of a scrolling application, a text application and a game application.

45 (Previously Presented) The method of claim 44 further comprising: physically or electronically labeling at least one input element of the first input assembly or the second input assembly so as to visually indicate an input function that can be selectively accessed by actuating the input element.

46 (Previously Presented) The method of claim 44 further comprising connecting a controller to the input elements of the first input assembly or the second input assembly, wherein the controller is configured to receive signals generated by a manipulation of one or more of the input elements of first input assembly or the second input assembly.

47 (Previously Presented) The method of claim 46, wherein at least one input element of second input assembly having a plurality of active areas configurable by the controller to form a plurality of delineated active areas.

48 (Previously Presented) The method of claim 47 further comprising positioning a shape changing media relative to the one input element of second input assembly having a plurality of active areas so as to permit the human user to tactilely discriminate between the plurality of delineated active areas.

49 (Previously Presented) The hand-held electronic device of claim 1, wherein the processor is further configured to be communicatively coupled to a host electronic device.

50 (Previously Presented) The hand-held electronic device of claim 12, wherein the processor is further configured to be communicatively coupled to a host electronic device.

51 (Previously Presented) The method of claim 19, wherein the controller is further configured to be communicatively coupled to a host electronic device.

52 (Previously Presented) The method of claim 24, wherein the hand-held electronic device is further configured to be communicatively coupled to a host electronic device.

53 (Previously Presented) The method of claim 28, wherein the hand-held electronic device is further configured to interface with a host electronic device.

54 (Previously Presented) The hand-held electronic device of claim 29, wherein the processor is further configured to interface with a host electronic device.

55 (Previously Presented) The method of claim 43, wherein the hand-held electronic device is configured to interface with a host electronic device.

56 (New) The hand-held electronic device of claim 1, wherein at least one of the input elements of the second input assembly comprises an accelerometer.

57 (New) The hand-held electronic device of claim 1, wherein at least one of the input elements of the second input assembly comprise a gyroscope

58 (New) The method of claim 17 further comprising disposing on one or more surfaces a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly comprises an accelerometer.

59. (New) The method of claim 17 further comprising disposing on one or more surfaces a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly comprises a gyroscope.

60. (New) The hand-held electronic device of claim 29, wherein at least one of the input elements of the second input assembly comprises an accelerometer.

61. (New) The hand-held electronic device of claim 29, wherein at least one of the input elements of the second input assembly comprise a gyroscope

62. (New) The method of claim 43 further comprising disposing on one or more surfaces a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly comprises an accelerometer.

63. (New) The method of claim 43 further comprising disposing on one or more surfaces a second input assembly having one or more input elements configured to be manipulated by one or more of the human user's fingers, wherein at least one of the input elements of the second input assembly comprises a gyroscope.